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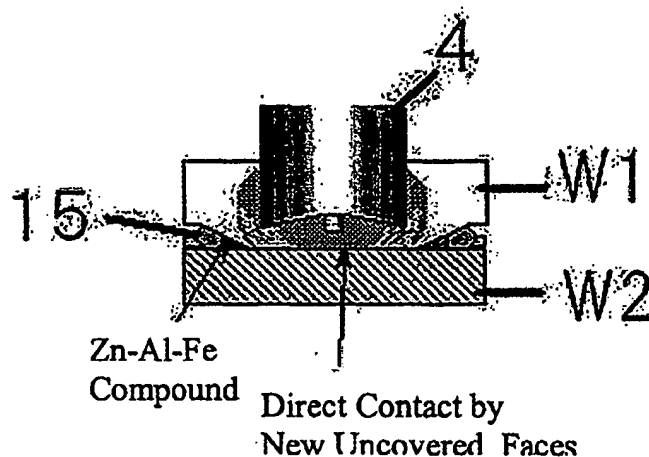
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(54) **Friction stir welding method and friction stir welded structure**

(57) An aluminium plate (W1) and a steel plate (W2) are lapped. A rotating tool (4) is placed on the aluminium plate (W1), and then a pressing force and a rotational force around a pressing axis of the rotating tool (4) are applied to the aluminium plate (W1) and the steel plate (W2). A zinc plating layer (15) having oxidation-prevention function is formed on the surface of the steel plate

(W2) in advance. When joining the both plates (W1, W2) an oxidation film formed on the aluminium plate (W1) is destroyed and the zinc plating layer (15) is pushed out outward from a joining portion, by applying the above pressing force and frictional heat and plastic flow due to the rotation of the rotating tool (4). Thereby, respective new uncovered surfaces of the both plates (W1, W2) are directly contacted.

FIG. 9



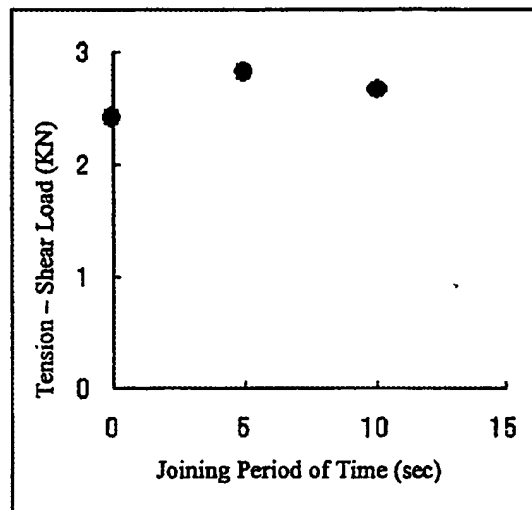


FIG. 26

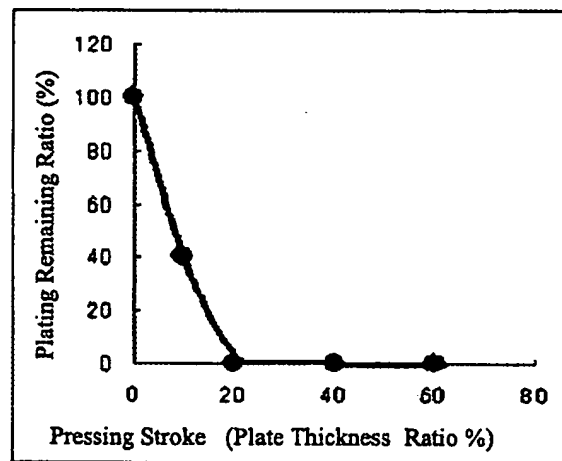
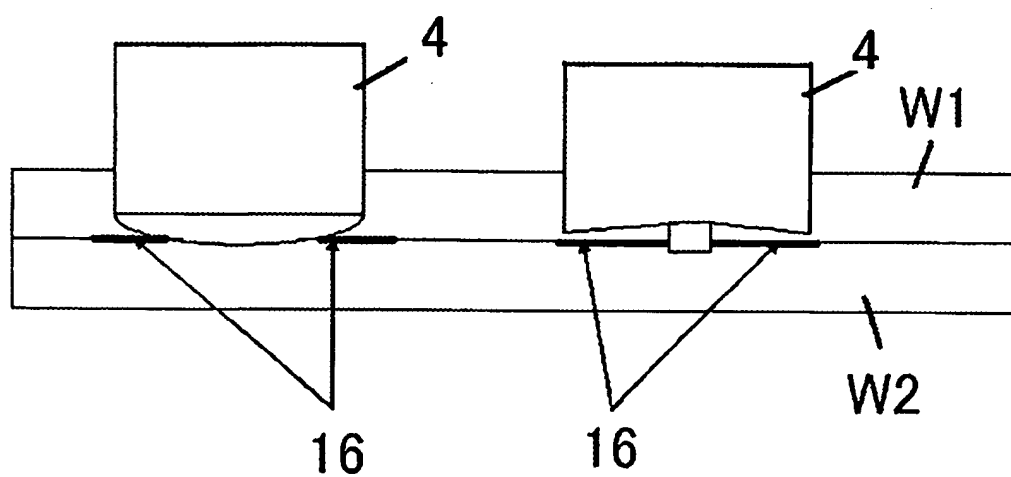


FIG. 27

FIG. 28





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EP 04 01 6335

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